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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,981	06/26/2003	Manish Vaishya	2002P11414US01; 60,427-60	6450

24500 7590 10/30/2007

SIEMENS CORPORATION
INTELLECTUAL PROPERTY LAW DEPARTMENT
170 WOOD AVENUE SOUTH
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ISELIN, NJ 08830

EXAMINER	
FAULK, DEVONA E	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
10/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/606,981	VAISHYA ET AL.	
	Examiner	Art Unit	
	Devona E. Faulk	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 8/82007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 6/26/2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 8/8/2007, with respect to the rejection(s) of claim(s) 1-22 under 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cairns.

2. The applicant has filed a terminal disclaimer to overcome the double patent rejection set forth in the previous office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 21 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 21 and 22 recite "..repeatedly calibrating the system over time...". Upon further investigation, the examiner has determined that this is not disclosed in the specification. This was added in the amendment filed on 12/20/2006 and therefore constitutes new matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims **1-20** rejected under 35 U.S.C. 103(a) as being unpatentable over Pfaff et al (US 5,146,505) in view of Cairns (US 2002/0097884).

Regarding claim 1,Pfaff discloses a method of calibrating an active noise control system (Figures 1-5; abstract), comprising:

selecting at least one noise source sound as a calibration reference (input signal associated with the engine induction noise; column 5, lines 56-57);

determining an actual system response to the calibration reference (signal form either of the microphones reads on actual response) ; and

calibrating the system in response to a calibration reference (column 5, line 51-column 7, line 25; column 7, line 58-column 8, line 50).

Pfaff fails to disclose calibrating to accommodate for any difference between the determined actual system response and an expected system response to the calibration reference. Cairns discloses comparing an actual system response to an expected system response to allow for calibration (page 2, paragraph 0014). It would have been obvious to modify Pfaff by comparing an actual system response to an expected system response for the purpose of having an improved method of calibrating the system..

Regarding claim 11, Pfaff discloses a noise control system (Figures 1-5), comprising:

a microphone that detects a sound (30 microphone, Figure 1);

a speaker (28 speaker Figure 1); and

a controller that drives the speaker to selectively generate a noise cancellation signal and interprets a signal from the microphone indicating a resulting system response to a combination of a noise source sound and the noise cancellation signal, the controller using at least one noise source sound as a calibration reference, the controller determining an actual system response to the calibration reference (controller 26, Figure 1; column 5, line 51-column 7, line 25; column 7, line 58-column 8, line 50).

Pfaff fails to disclose calibrating to accommodate for any difference between the determined actual system response and an expected system response to the calibration reference. Cairns discloses comparing an actual system response to an expected system response to allow for calibration (page 2, paragraph 0014). It would have been obvious to modify Pfaff by comparing an actual system response to an expected system response for the purpose of having an improved system for calibrating.

Regarding claims 2 and 12, Pfaff as modified discloses including selecting a plurality of dominant noise order source sounds and wherein the controller uses a plurality of dominant order noise source sounds (Pfaff;column 4, lines 4-26).

Regarding claims 3 and 13, Pfaff as modified discloses including determining the system response to the sound, determining a harmonic representation of the determined response and using the determined harmonic representation as the

calibration reference and a controller that determines the system response and a harmonic representation of the determined response, the controller using the determined harmonic representation as the calibration reference (Pfaff; column 5, line 22- column 6, line 9; column 8, lines 7-50).

Regarding claims 4 and 14, Pfaff as modified discloses including subsequently determining an actual harmonic representation of the system response to the same sound and determining whether the actual harmonic representation corresponds to the calibration reference and a controller that determines an actual harmonic representation of the system response at a selected time and determines whether the actual harmonic representation corresponds to the calibration reference (Pfaff; column 5, line 8- column 6, line 9; column 8, lines 7-50).

Regarding claims 5 and 20, Pfaff as modified discloses wherein the system response comprises a microphone signal indicative of a sound detected by the microphone (Pfaff; column 5, lines 53-column 6, line 9).

Regarding claims 6 and 15, Pfaff as modified discloses wherein the noise source is a vehicle engine and including determining the harmonic representation at a plurality of engine speeds and a plurality of throttle conditions (Pfaff; abstract; column 4, lines 5-26; column 5 line 22- column 6, line 9; column 8, lines 7-50).

Regarding claims 7 and 16, Pfaff as modified discloses wherein the noise source is a vehicle engine having a number of cylinders and the selected sound is from a

dominant order which is a factor applied to the number of cylinders (Pfaff; abstract; column 4, lines 5-26; column 5 line 8- column 6, line 9; column 8, lines 7-50).

Regarding claims 8 and 17, Pfaff as modified teaches that the dominant order is a factor applied to the number of cylinders (Pfaff; column 5, lines 8-20). Pfaff as modified fails to disclose that the selected sound is from a dominant order having a factor of ½. The examiner takes official notice that it is known in the art that the factor applied to the number of cylinders is determined by a designer according to what will provide the most optimal conditions for noise reduction. It would have been obvious to one of ordinary skill in the art to have the selected sound be from a dominant order having the desired factor of ½ in order to meet design specifications and provide the most optimum environment for reducing noise.

Regarding claims 9 and 18, Pfaff as modified discloses including estimating a noise source sound as an inverse of a produced cancellation signal; and the controller using the estimated noise source sound as the selected at least one noise source sound (Pfaff; column 4, lines 5-26; column 5 line 8- column 6, line 9; column 8, lines 7-50).

Regarding claims 10 and 20, Pfaff as modified discloses including estimating a noise source sound as the difference between a system response to the noise source sound and a produced cancellation signal; and the controller using the estimated noise source sound as the selected at least one noise source sound (Pfaff; column 4, lines 5-26; column 5 line 8- column 6, line 9; column 8, lines 7-50).

7. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfaff et al (US 5,146,505) in view of Cairns (US 2002/0097884) in further view of Nadim (US 5,434,925).

Regarding claims 21 and 22, Pfaff as modified fails to explicitly teach of the controller repeatedly calibrating the system over time. Nadim discloses an active noise reduction system that repeatedly calibrates over time (column 1, lines 32-46). It would have been obvious to modify Pfaff as modified so that the controller repeatedly calibrates the system over time as taught by Nadim in order to have an improved apparatus for canceling noise.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEF

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